



J.R. Simplot Company
P.O. Box 912,
Pocatello, Idaho 83204
208 235-5600 Business

February 21, 2019

Arthur Burbank
Remedial Project Manager
Forest Service Intermountain Region
4350 South Cliffs Drive
Pocatello, ID 83204

Subject: Smoky Canyon Mine Remedial Investigation/Feasibility Study
Final Dinwoody Material Source Investigation Report

Dear Art,

Attached for your records is the *Final Dinwoody Material Source Investigation Report*. The J.R. Simplot Company (Simplot) is providing this final information as requested in your letter dated February 19, 2019 and in accordance with the August 2009 Settlement Agreement/Consent Order, as part of the Remedial Investigation/Feasibility Study (RI/FS) conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Please contact me if there are questions regarding this submittal.

Sincerely,

Jeffrey Hamilton
Environmental Engineer

cc: (1 copy except as otherwise noted)
Arthur Burbank – USFS, 410 East Hooper, Soda Springs, ID 83276 (unbound)
Sherri Stumbo – USFS, 4350 South Cliffs Dr., Pocatello, ID 83204
Rick McCormick – Jacobs, email only
Jeff Osterman – Jacobs, email only
Ralph Oborn – IDEQ, email only
Kathryn Venable – IDEQ, email only
Brady Johnson – IDEQ, email only
Colleen O'Hara – BLM, email only
Sandi Fisher – USFWS, email only
Jeremy Moore – USFWS, 4425 Burley Dr., Suite A, Chubbuck, ID 83202
Matt Wilkening – USEPA, email only
Kelly Wright – Shoshone-Bannock Tribes, P.O. Box 306, Fort Hall, ID 83203
Susan Hanson – (b) (6)
Gary Billman – IDL, email only
Alan Prouty – J.R. Simplot Company, email only
Dedra Williams – J.R. Simplot Company, email only





J.R. Simplot Company
P.O. Box 912,
Pocatello, Idaho 83204

208 235-5600 Business

February 21, 2019

Arthur Burbank
Remedial Project Manager
Forest Service Intermountain Region
4350 South Cliffs Drive
Pocatello, ID 83204

Subject: Smoky Canyon Mine Remedial Investigation/Feasibility Study
Final Dinwoody Material Source Investigation Report

Dear Art,

Attached for your records is the *Final Dinwoody Material Source Investigation Report*. The J.R. Simplot Company (Simplot) is providing this final information as requested in your letter dated February 19, 2019 and in accordance with the August 2009 Settlement Agreement/Consent Order, as part of the Remedial Investigation/Feasibility Study (RI/FS) conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Please contact me if there are questions regarding this submittal.

Sincerely,

Jeffrey Hamilton
Environmental Engineer

cc: (1 copy except as otherwise noted)
Arthur Burbank – USFS, 410 East Hooper, Soda Springs, ID 83276 (unbound)
Sherri Stumbo – USFS, 4350 South Cliffs Dr., Pocatello, ID 83204
Rick McCormick – Jacobs, email only
Jeff Osterman – Jacobs, email only
Ralph Oborn – IDEQ, email only
Kathryn Venable – IDEQ, email only
Brady Johnson – IDEQ, email only
Colleen O'Hara – BLM, email only
Sandi Fisher – USFWS, email only
Jeremy Moore – USFWS, 4425 Burley Dr., Suite A, Chubbuck, ID 83202
Matt Wilkening – USEPA, email only
Kelly Wright – Shoshone-Bannock Tribes, P.O. Box 306, Fort Hall, ID 83203
Susan Hanson – (b) (6)
Gary Billman – IDL, email only
Alan Prouty – J.R. Simplot Company, email only
Dedra Williams – J.R. Simplot Company, email only

1 copy for
Records
Center



J.R. Simplot Company
P.O. Box 912,
Pocatello, Idaho 83204

208 235-5600 Business

cc: (continued)

Lori Hamann – J.R. Simplot Company, email only

Chad Gentry – J.R. Simplot Company, email only

Grant Williams – J.R. Simplot Company, email only

Ron Quinn – J.R. Simplot Company, 1890 Smoky Canyon Mine Road, Afton, WY 83110

Andy Koulermos – Formation Environmental, email only



United States
Department of
Agriculture

Forest
Service

Caribou-Targhee National Forest HQ

1405 Hollipark Drive
Idaho Falls, ID 83401
208-557-5900
Fax: 208-557-5827

File Code: 2160
Date: February 19, 2019

Alan Prouty
Vice President,
Environmental & Regulatory Affairs
J.R. Simplot Company
1099 W. Front Street
Boise, ID 83702

UPS: 1ZE273430396084439

RE: Smoky Canyon Mine Remedial Investigation/Feasibility Study Dinwoody Material Source
Investigation Report

Dear Alan,

The Agencies have no comments on the Smoky Canyon Mine RI/FS Dinwoody Material Source
Investigation Report.

Therefore, US Forest Service approves the November 27, 2018 document as Final.

Please send out a hard copy of the Document, labeled as Final Approved.

If you have any questions, please contact me at 208-236-7572.

Sincerely,

ARTHUR BURBANK
Environmental Engineer

cc: Jeffery Hamilton; Simplot, Pocatello
Ron Quinn; Simplot, Smoky Canyon Mine
Burl Ackerman; Simplot, Boise
Andy Koulermos; Formation Environmental, Boulder
Sandi Fisher; USFWS, Pocatello
Colleen O'Hara; BLM, Pocatello
Brady Johnson; IDEQ, State Office
Ralph Oborn; IDEQ, Pocatello
Matt Wilkening; EPA, Boise
Kelly Wright; Shoshone-Bannock Tribes, Fort Hall
Susan Hanson; Shoshone-Bannock Tribes, Fort Hall
Rick McCormick; Jacobs, Boise



To: Jeff Hamilton, Environmental Engineering Manager; Grant Williams, Senior Mine Engineer
From: Katie Wilkes, Geologist
Cc: Neil Musilek, Engineering Manager; Casey McCaslin, Survey
Date: February 21, 2019
Re: **Final RI FS Dinwoody Borrow Test Excavations**

The objective of this investigation is to provide site-specific information needed for the detailed analysis of remedial alternatives in the FS by locating, delineating, and estimating available volumes of Dinwoody material for potential future use. The potential borrow sources tapped for further evaluations are B-Panel A & B, West Smoky C, D-Panel A & B, and E-Panel A & B.

Figure 1 shows the areas included in this investigation.

It can be seen from the constructed road cuts and pads that Dinwoody Formation is present at the surface, however the material type varies from site to site. Excavations at each site varied in depth and were limited by either material type or equipment reach. Photo documentation is provided for cuts, pads, and excavations at the sites. It should also be noted that the cut associated with constructing access to sites is included in determining material thickness. Site specific descriptions include comparative assessment of material quality of Dinwoody based on Dinwoody cover system currently being utilized at Smoky Canyon Mine.

Volume Estimates

Distinct characteristics and variable weathering make each dig location unique. Because of a lack of homogeneity a simplified approach to calculating potential volumes of recoverable Dinwoody was employed. Each area was looked at as a whole to determine the depth of topsoil to be removed and appropriate depth of extractable material or refusal. Depth and area are the controlling factors determined by the excavations, while borrow designs were standardized 2:1 cuts from surface without attention to drainage or other slope stability considerations.

The areas involved in the calculations were based on the original delineated borrow areas but modified based on field observations. Volumes are not indicative of material quality but signify the amount of material in the area that appears to be available for excavation. **Table 1** includes updated areas and volumes for the borrow areas along with a description of the material type cover suitability.

B-Panel Borrow Area

Documentation for each excavation site and any other field observations are in the trench logs attachment. B-Panel borrow contained excellent clay rich material overall. All excavations in this area were extended to the maximum reach of the equipment. Site DW_BB02 had some less desirable gravelly zones near the surface and has been adjusted to the edge of the borrow area. **Figure 2** indicates the areas of the original B-Panel borrow designs and the new adaptations following examinations from this field program. Selected images for each site are included in this report, additional photo documentation is available within the attachments.

Volumes in this area were updated anticipating removal of 4 feet of topsoil with an overall 30 foot deep excavation below topography. Good material likely exists deeper as the excavations terminated in with good clay material at the bottom.

West Smoky C Borrow Area

Overhead and buried power lines extend the entire length of the original borrow design and it has therefore been evaluated not to be a feasible borrow site.

D-Panel Borrow Area

All sites were terminated at refusal of digging and ripper teeth were in fact broken on the rock at sites DA01 and DA03. Although none of the excavation sites indicated good quality Dinwoody cover material road cuts were considered in evaluation of the site as a whole. Additional field notes for the D-Panel borrow areas and excavation sites are in the trench logs attachment. A general observation in the steep D and E panel areas is that there is more cliff forming rock with elevation up the slope. **Figure 3** indicates the areas of the original D-Borrow designs and the new adaptations following examinations from this field program. Selected images for each site are included in this report, additional photo documentation is available within the attachments.

Volumes in this area were updated within a much smaller areas. Calculations within this area assumed 3 feet of topsoil and 10 feet total depth for excavating material below topography. Despite the conservative estimate, it is still unlikely that all the diggable material would be suitable for cover material.

E-Panel Borrow Area

All sites were terminated at refusal of digging through rock, EA01 and EB02 were complete nearly at the surface. None of the excavation sites indicated a large quantity of good cover-

quality Dinwoody. Alternating rock and loose material in some locations saw better digging below the surface rock outcrops although none of the trenches were extended to a great depth. The upslope extent for accumulation of good usable weathered Dinwoody appears to coincide with the areas of existing borrows in both D and E panel. Additional field notes for the E-Panel borrow excavation sites are in the trench logs attachment. **Figure 4** indicates the areas of the original E-Borrow designs and the new adaptations following examinations from this field program. Selected images for each site are included in this report, additional photo documentation is available within the attachments.

Volumes in this area were updated within a much smaller areas. Calculations within this area assumed 3 feet of topsoil and 15 feet total depth for excavating material below topography. Most of this material would not be suitable for cover material.

Figure1 – RI Dinwoody Borrow Test Excavation Sites

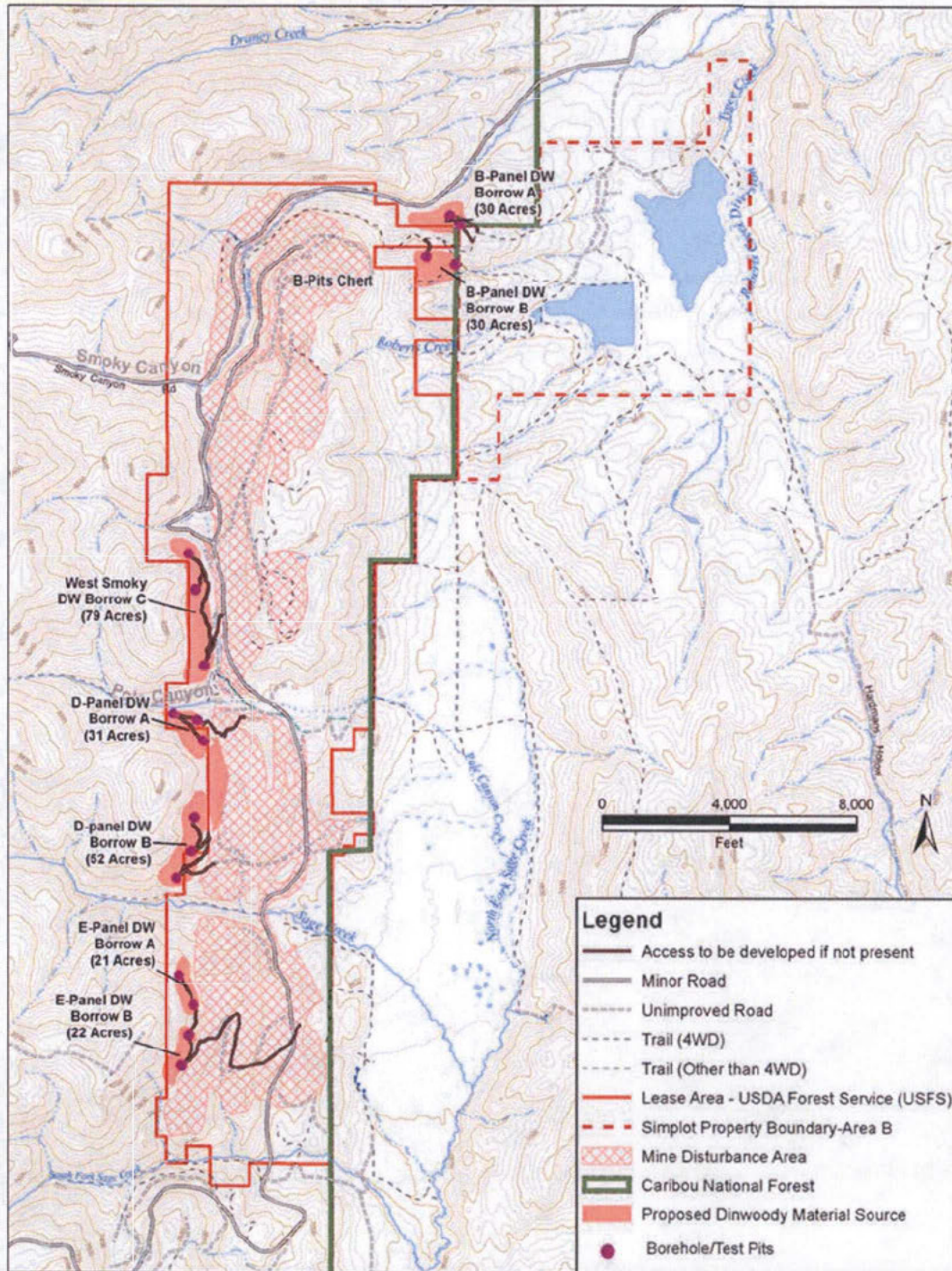
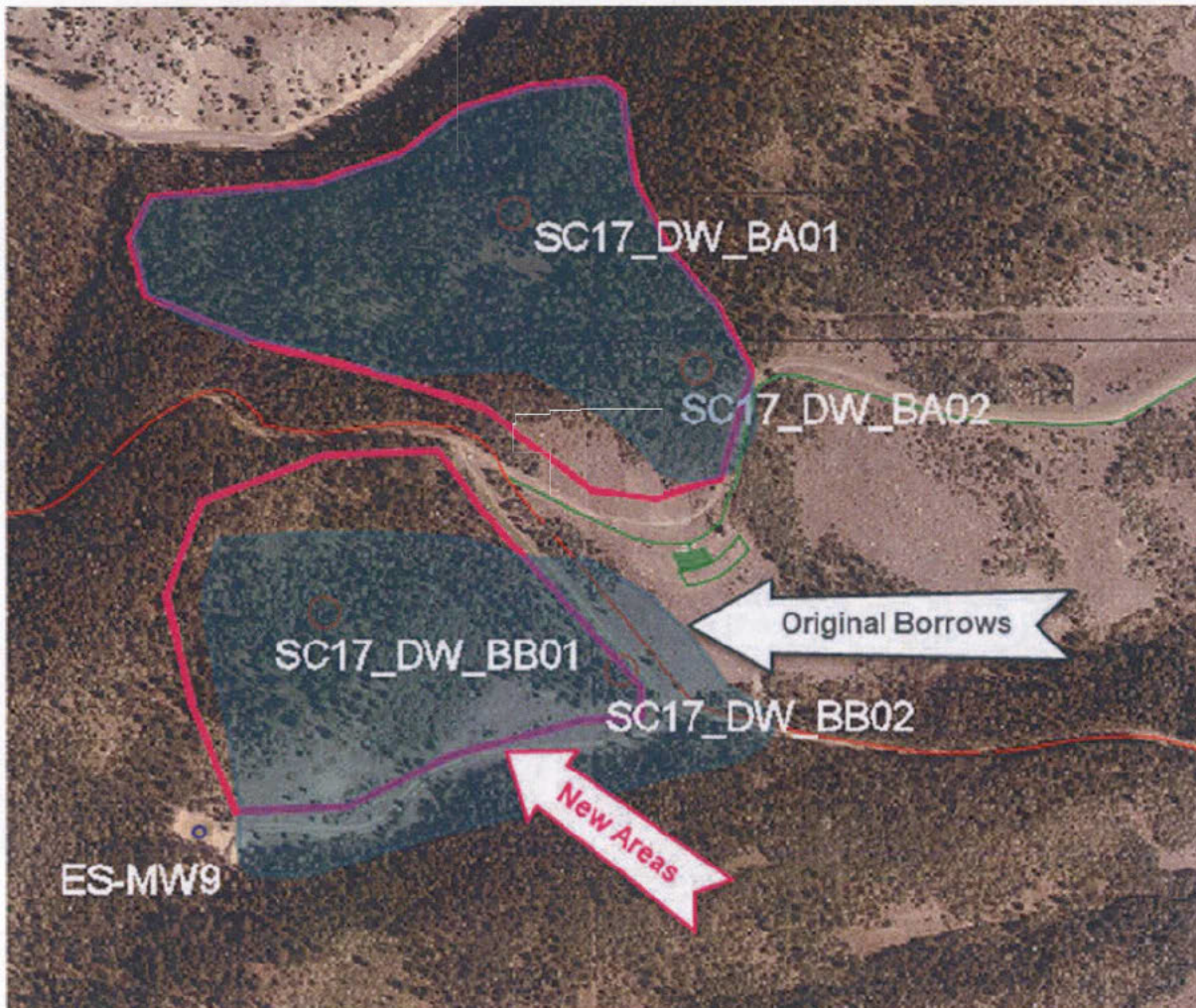


Figure 2 – B-Panel Borrow



DW_BA01



DW_ BA02



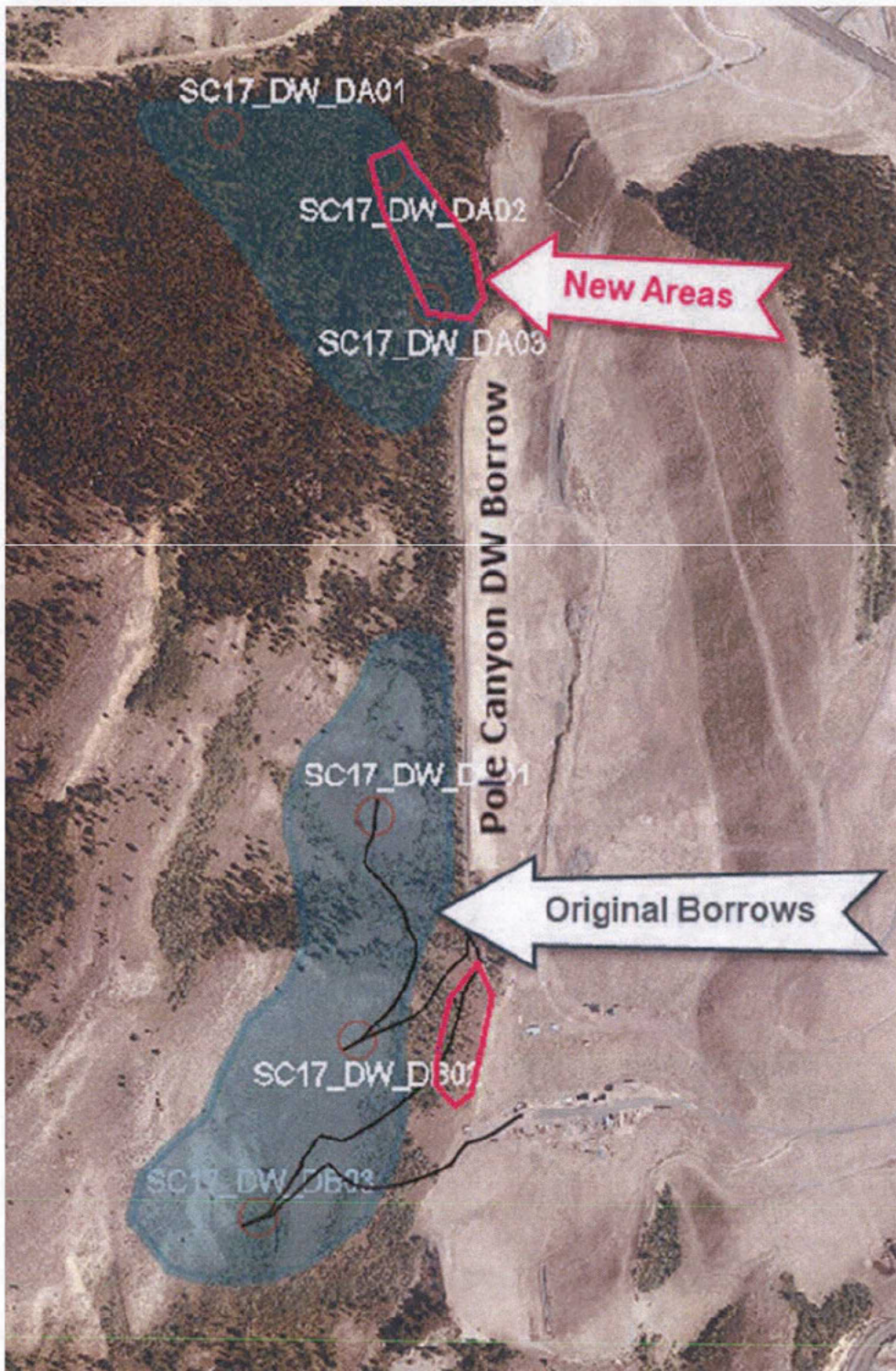
DW_BB01



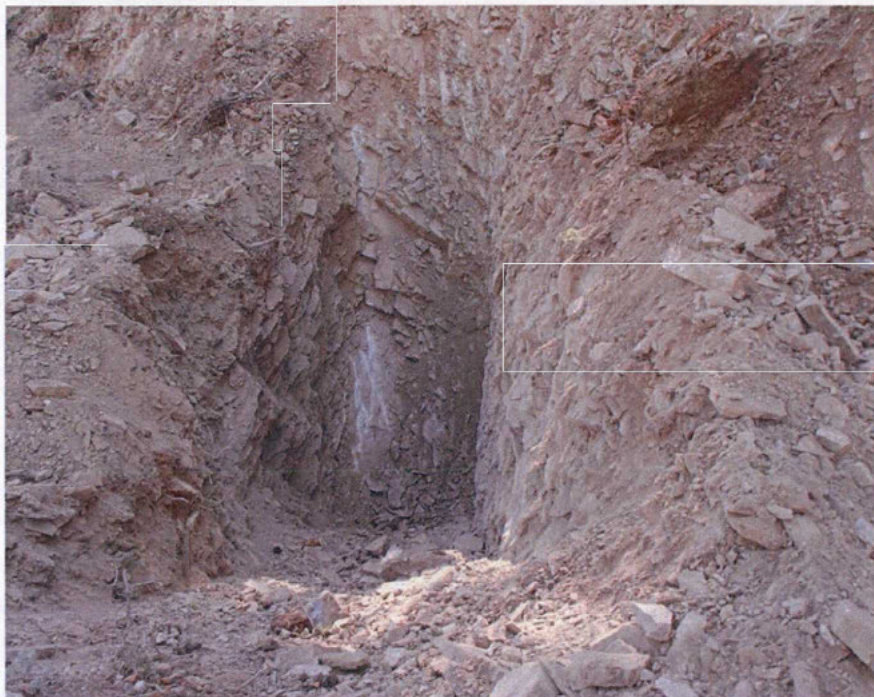
DW_BB02



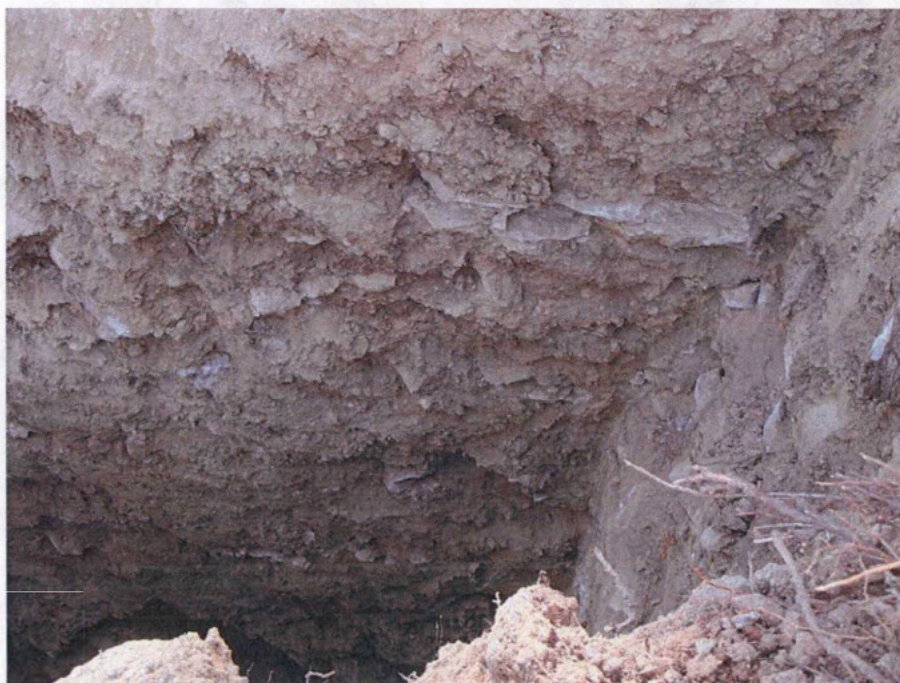
Figure 3 – D-Panel Borrow



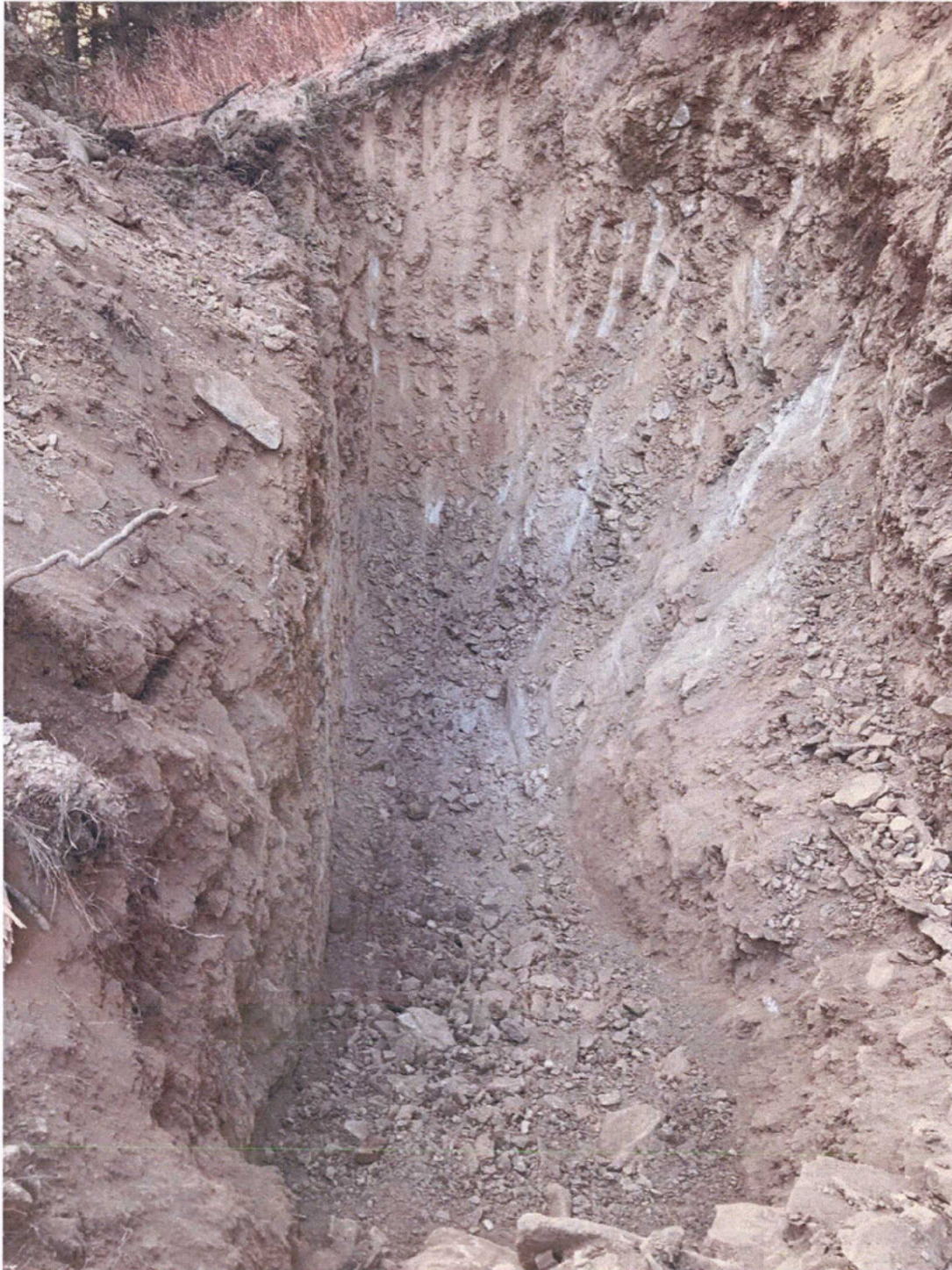
DW_ DA01



DW_ DA02



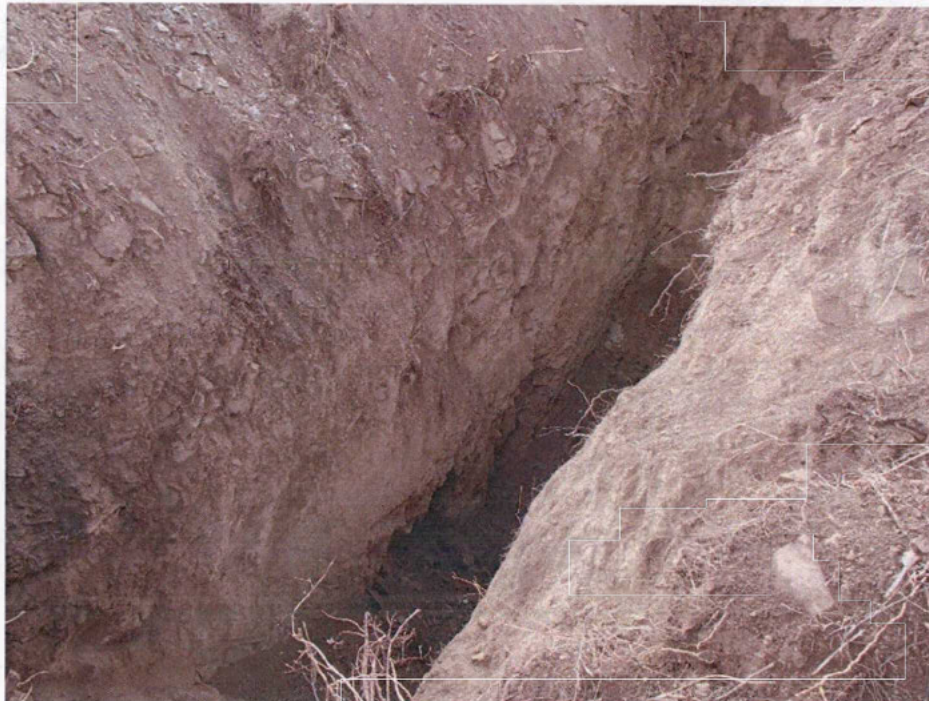
DW_DA03



DW_DB01



DW_DB02



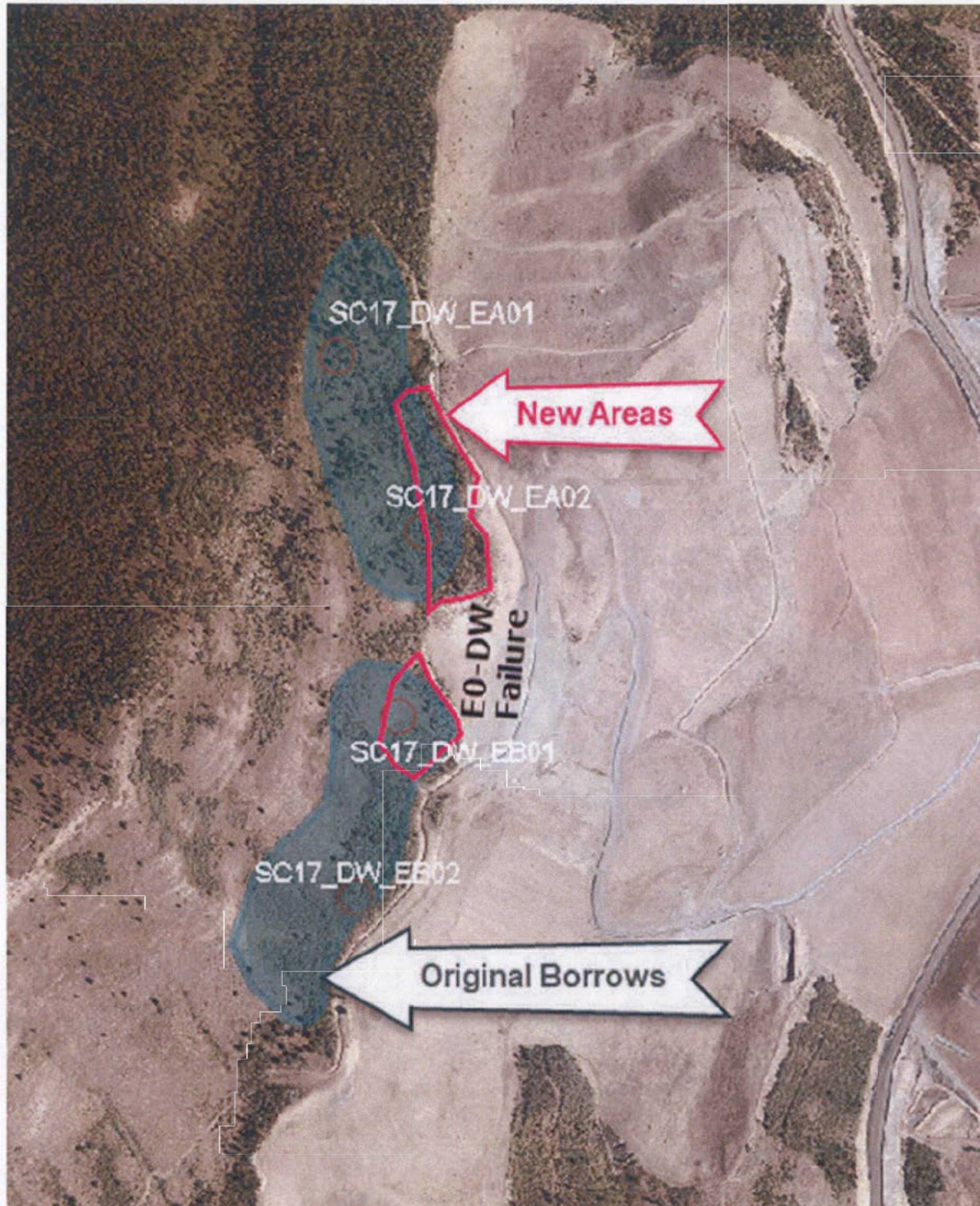
DW_DB03



D-Panel Borrow B Road Cut



Figure 4— E-Panel Borrow



DW_EA01



DW_EA02



DW_EB01



DW_ EB02

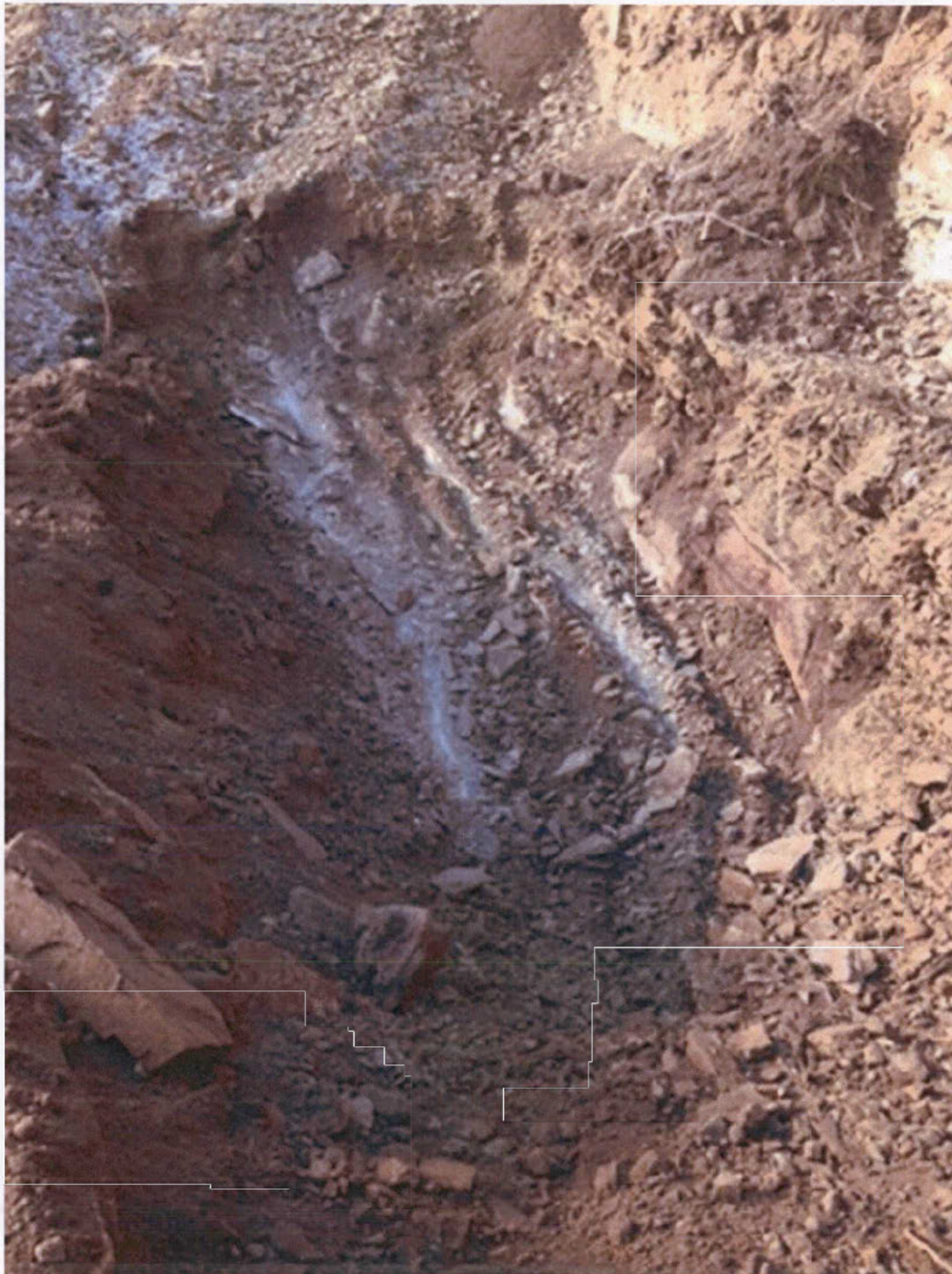


Table 1

Proposed Borrow Area ID	Area (Acres)	Estimated Recoverable DW Volume (CY)	NEW Area (Acres)	NEW Estimated Recoverable DW Volume (CY)	Borrow Material Suitability Type Description
B-Panel DW Borrow A	36.3	960,453	39.7	1,590,000	Good Clay
B-Panel DW Borrow B	38	1,005,433	31.8	1,280,000	Good Clay
West Smoky DW Borrow C	79.2	2,095,535	0	-	n/a
D-Panel DW Borrow A	31.5	833,451	5.1	55,000	Poor Gravely/Rock
D-panel DW Borrow B	52.2	1,381,148	2.5	26,000	Poor Gravely/Rock
E-Panel DW Borrow A	21.4	566,218	7	125,000	Poor Gravely/Rock
E-Panel DW Borrow B	22.3	590,031	3.7	65,000	Poor Gravely/Rock

Borrow Area B

10/09/2018- Snow

DW_BB01

0-3 Soil (OL) organic silt/clay

3-15 yellowish-orange DW (CH) Stiff Clay – good

15-25+TD olive-grey DW (CH) Stiff/Very Stiff to Hard Clay – good

DW_BB02

0-5 Soil (GC) clayey gravels/ sand-clay mixture

5-10 well rounded (GC) mixture cobbles –gravel/clay – poor

10-25+TD light brown DW (CH) Stiff to Hard clay – good

10/10/2018 – Snow

DW_BA01

0-4 Soil (OL) organic silt/clay

4-25+TD light brownish orange-grey DW (CH) soft to stiff clay, moldable – good

DW_BA02

0-4 Soil (OL) organic silt/clay

4-25+TD yellowish orange-tan DW (CH) very stiff to hard clay, platy – good

Borrow Area C

DW_C Borrow area runs parallel with overhead and underground power lines and cannot be utilized as a borrow area.

Borrow Area D

10/18/2018 – Clear and Cool

DW_DA01

0-2 Soil (GC) light brown angular clayey gravels, fine sand-clay mixture

2-22+/-TD dark brown-red staining/dark grey rocky DW shale/limestone boulders/cobbles – bad

Refusal @ TD (broken ripper tooth)

DW_DA02

0-3 Soil (GC) light brown angular clayey gravels, fine sand-clay mixture

3-15 light brown/light grey DW rocks, clayey matrix ~40% gravel, ~5+% cobbles – poor

Grades into boulder rocks at varying depth

15-20 light brown/light grey DW shale/limestone rock –bad

10/22/2018 – Partly Cloudy

DW_DA03

0-1.5 Soil (ML) light brown fine silty-clay mixture

1.5-5 light brown/light grey (GC) DW rocks, gravel-cobble in clay-silt matrix– poor

Grades into boulder size shale/limestone rocks

5-14+TD light grey/light brown DW shale/limestone rock –bad

Refusal @ TD (broken ripper tooth)

10/23/2018 – Mostly Cloudy/ Scattered Rain Showers

DW_DB01

0-2+ Soil (OL) dark brown fine silty-clay matrix

2-13+TD reddish brown/light grey DW shale/limestone rock – bad

10' from top of cut to pad plus 3' trench

DW_DA02

0-7 Soil (GC/ML) light brown – yellowish and light grey fine silty-clay mixture with some angular gravel some plasticity –poor

Grades into boulder size shale/limestone rocks

7-15+TD light grey/light brown DW shale/limestone rock – bad

DW_DB03

0-4+ Soil bottom of roots (GC) light brown fine silty-clay matrix with gravely shale rock

4-7+TD yellowish/orange and light grey DW shale rock, interbedded seams of dark red-brown limestone rock– bad

Additional note: half of the first switch back looked to have up to/ at least 5 feet of decent fine grain clayey material in the road cut. This is only present lower on the slope/switchback and full east facing slope. The south facing slope has significantly more hard silty shale with low plasticity and clay content, an apparent contact for this material type around the edge of the slope appears to be parallel with the pillar like cliff outcrop overlooking Sage Creek below the D boneyard.

Borrow Area E

The excavator operator encountered hard rock and abandoned the dig at the surface on 10/29 and 10/30 at DW_EA01 and DW_EB02 respectively.

10/30/2018 – partly cloudy and cool

DW_EB01

0-3 Soil with roots (OL/GC) reddish brown fine silty-clay matrix with gravely shale rock

3-21+TD (GM) light reddish brown silty matrix and interbedded light grey DW shale rock– poor

9' from top of cut to pad plus 12' trench

DW_EA02

0-3 Soil with plasticity and roots (OL/GC) light reddish brown fine silty-clay matrix with some gravel

3-8 light brown and grey large DW shale/limestone rocks – bad

8-16+TD (GM) light brown and grey DW shale rocks in low plasticity silty matrix, interbedded seams of dark red-brown limestone – poor

8' from top of cut to pad plus 8' trench